AIDSTAR-One Success Story

Improving Infection Prevention and Control Education in Ethiopia's Medical Schools

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—Yigerem Assefa, medical laboratory instructor, Hawassa College of Health Sciences

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Background

Around the world, health facilities are viewed as places of hope and healing. On the contrary, health facilities may expose patients and caregivers to different health hazards and nosocomial infections. In Ethiopia, the risk of health facility-acquired infection is very high for patients and staff at hospitals and clinics, with one study reporting 6 percent prevalence of such infections in two hospitals (Nejad et al. 2011). To prevent the spread of disease, health care providers need training to practice proper infection prevention and control (IPC) within their facilities.

The linkage between Ethiopia's Ministry of Health and most of the academic institutions responsible for training health care workers is not strong. As a result, new regulations and guidelines are rarely communicated to educational institutions, so students in the health sciences often don't get up-to-date training based on the latest standards. These deficiencies in pre-service education can result in substandard health service provision, particularly in IPC and patient safety.

With funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), through the U.S. Agency for International Development (USAID)/Ethiopia, AIDSTAR-One is collaborating with seven universities and three regional health sciences colleges on a two-year project (ending in January 2014) to improve pre-service education in IPC and patient safety. AIDSTAR-One's capacity-building assistance includes curriculum development, IPC and patient safety training, and provision of equipment for demonstration centers where students can get a practical, hands-on educational experience. AIDSTAR-One is also working to establish professional development centers within the universities to strengthen faculty knowledge and skills and to further the sustainability of the program.

Assessing Needs

To design, monitor, and supervise these activities, each institution created a technical working group of top academic leaders to collaborate with AIDSTAR-One. As a first step, the institutions conducted a needs assessment at each site.

These assessments revealed important gaps:

- The IPC knowledge and skills of faculty members were not up-to-date; few had received training in IPC.
- Very few faculty members had adequate training in teaching methodology for any subject.
- The linkage between educational institutions and national IPC standards was weak.
- Students performed poorly on tests measuring standard IPC knowledge and skills.
- At all institutions, simulation centers—where students first learn hands-on skills—were poorly equipped.
- The nursing curriculum lacks major IPC topics.

The assessment findings guided the creation of a rigorous plan of action to improve IPC pre-service training at each institution. Activities included development of a standardized set of core IPC competencies for nursing students, curriculum reviews and syllabus standardization, exercises to integrate content into the nursing and medical laboratory curricula, and training to improve faculty knowledge and skills.

Updating the Curriculum

Developing a set of core IPC competencies—fundamental abilities and knowledge—for nursing students was one of the project's first activities. The goal was to create integrated IPC content throughout the nursing curriculum.

Under the leadership of the Ethiopian Nursing Association, nursing experts from the partner universities identified the IPC skills and information required by national IPC standards for nursing students to master. The experts then reviewed the content of nursing courses to determine whether these subjects were covered and whether the curriculum was up-to-date and in line with national IPC standards.

Courses identified as having inadequate or outdated IPC components received new content, learning objectives, and teaching materials, in some cases with a change in teaching methodologies. Assessment protocols were developed to gauge the effectiveness of the teaching process.

Results from each institution were presented at a workshop to identify best practices and lessons learned, build national consensus about nursing curriculum standards for IPC, and share the results with stakeholders for scale-up of standardization nationwide. One workshop outcome has been an updated national curriculum for mid-level nursing training.

At some institutions, faculty began to prepare new lesson plans and establish exam committees to ensure the integration of the new curriculum into all aspects of the syllabus. The curricula for lab technician trainees and for midwifery students were similarly revised.

Improving Instruction

A primary objective of the project has been to support faculty members as they transition to teaching the new curricula. An important addition resulting from the project has been the introduction of a competence-based approach to teaching IPC content and skills, including identification of core competencies, improving the teaching methodology, and improved student assessment techniques. Over 90 percent of faculty members in the participating institutions have now been trained in the latest IPC skills and in the new coursework.

Many students have noticed the difference between the old and new teaching approaches.

"Now, teachers give us outlines and objectives, and use different teaching materials and techniques," said Temesgen Zewde, a second-year student in laboratory technology at Hawassa College of Health Sciences. "They interact with students, make formative assessments before the

final exams, arrange tutorials, and assign students to groups [to help weaker students improve]."

Another welcome change has been the introduction of the Objective Structured Clinical Exam (OSCE), a modern examination method that tests clinical skills. Students taking the OSCE move in a circuit from one testing station to another, where—one on one—different examiners assess particular aspects of their knowledge in an oral or written quiz, or test their capabilities in a hands-on assignment. The OSCE represents a more standardized, objective, and efficient testing process than traditional health sciences testing.

Relearning How to Teach—Better Teaching Methodology

Preparing faculty members requires more than just familiarizing them with the updated teaching material and syllabi and establishing new testing approaches. In many cases, faculty members also need training in more effective teaching methods, since few had ever received instruction in how to teach, or how to incrementally build student knowledge and confidence. In many cases, the old course content was inconsistent, with significant gaps, reflecting the instructor's interests, preferences, and comfort levels, not the full range of information that students needed.

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"[Teachers] rarely set objectives for their lessons," said Dr. Ephrem Tekle, Director of Mekelle University's Quality Assurance Office. "Instead, they rambled…stressing areas they liked, downplaying areas they didn't like, and winding up at whichever point."

In Ethiopia, low clinical practice opportunity in pre-service training has been noted (Fullerton et al. 2010). AIDSTAR-One explored IPC teaching skills and the learning environment at selected universities and observed use of old-fashioned, top-down teaching approaches, with little student input or discussion, and few opportunities for hands-on learning. AIDSTAR-One promotes student-centered and experiential learning in the target universities and colleges.

At Hawassa College of Health Sciences, Yigerem Assefa, a medical laboratory instructor, has noticed how this new instructional orientation has changed his students.

"They now easily pass summative exams and build confidence to qualify for the certificate of competence exam," he said. "And classes are more lively now, with students participating fully."

Change Is Good—But Also Difficult

Because these reforms challenge the status quo in teaching methods and in the relationships between instructors and students, there is sometimes initial resistance to them. But many of the professors are well aware from their own student experiences of the difference that the new teaching approaches can make.

"The traditional education [we received] conditioned most of us to be fearful, skeptical, confused, clinging, and demotivated," said Dr. Zerihun Abebe, Dean of the College of Health Sciences at Mekelle University. "That is a pity."

At many of the sites, staff report that students have themselves become energetic advocates of innovation in IPC education and in pioneering IPC-related practices and procedures at the health facilities where they do internships or begin their first jobs.

"Our students have become agents of change," said Haftu Berhe, head of the Department of Nursing at Mekelle University. "This 'movement' has enhanced the image of the university and increased demand for its graduates."

Building National Capacity to Excel

At each participating institution, instructors and staff who underwent the training are now training other staff throughout their facilities. But even institutions that have not participated in the AIDSTAR-One program benefit from assistance they receive from their colleagues at institutions that did participate. For example, Hawassa College of Health Sciences is now advising three other health sciences colleges on curriculum revision and instructional improvement. These collaborations help raise IPC standards and expertise across the board throughout Ethiopia's medical and public health structures.

Challenges remain for the participating institutions. In many of the institutions, class sizes per instructor are large, which limits the impact of better instructional methods. Funding is needed to equip more classrooms and labs with teaching tools and other materials—some now required to fulfill new curriculum requirements—to give hands-on IPC experience to students.

Overall, though, the collaboration with AIDSTAR-One has helped bridge the gap between the development of national IPC guidelines and implementation by institutions of higher learning, as it has helped improve IPC course content and instruction. The project represents a valuable investment in Ethiopia's medical system and in the health of its people, a commitment that will lead to better health outcomes nationwide.

References

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